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THE
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RETROSPECT AND PROSPECT.

By H. E. SLAUGHT, The University of Chicago.

With this issue THE AMERICAN MATHEMATICAL MONTHLY closes the nineteenth year of its history. It was founded in 1894 by Benjamin F. Finkel, then professor of mathematics at Kidder Institute, Kidder, Missouri. Associated with him in the editorship was J. M. Colaw; then principal of the high school at Monterey, Virginia. Other associate editors who have assisted from time to time are Saul Epsteen, during the years 1904-5 and Oliver E. Glenn during 1906.

Professor Finkel, as author of the well known Mathematical Solution Book, naturally gave great impetus, through the columns of his newly established journal to the proposal and solution of problems. The number and character of the contributors to these departments and the sustained interest in these contributions even up to the present time, on the part of the readers of this journal are of no small import in its history. But appropriate space has also been given to contributed articles of a widely diversified character, including biographies of mathematicians, historical, pedagogical, and bibliographical papers, and elementary research in pure and applied mathematics. The names of the contributors constitute a long and worthy list, as will be evident from the general index to volumes I to XIX soon to be published. These contributions have not only provided interest and profit for the constituency of the Monthly, but, in not a few cases, they have been veritable stepping stones on which the authors themselves have risen to greater mastery of technical research in the more advanced phases of mathematics.

It is in nowise the purpose of this article to relate the history of the Monthly in detail, in fact this could hardly be done with completeness except by the founder himself and those who were intimately associated with him during the early years. Suffice it to say that the years 1894-1902 constitute an epoch in the history during which the full financial and editorial responsibility rested upon the founder alone, while in the period 1903-1912, the full editorial responsibility, aside from the problem departments, rested upon others, and some financial assistance was received from outside sources.

In January 1903, Dr. Leonard E. Dickson, then assistant professor of mathematics at the University of Chicago, became co-editor and assumed full responsibility for the acceptance and publication of contributed articles, Editor Finkel retaining control of the problem departments and business management. This arrangement was exceedingly fortunate, not only because of Professor Dickson's eminent fitness for this service but because of his loyal and continuous interest in the Journal from its inception, having contributed many papers to its columns, including an article for the first number of volume one, while he was a student of the University of Texas.

Prof. Dickson continued in this relationship until January, 1907, when on account of pressing duties in other directions he succeeded in inducing the present writer to take his place. During Professor Dickson's editorship the quality of the journal was maintained on a high standard, but, in common with most scientific journals, its subscription receipts were not sufficient to cover the cost of publication. In fact, if all the history were told, it would be found that Editor Finkel, as owner and business manager had more than once personally made up deficits previous to this time, and for such devotion and unselfish contributions to the support of this journal he deserves and should receive the gratitude of all who believe in the mission of such a publication in a field otherwise quite unoccupied in this country. Professor Dickson believed in the mission of the MONTHLY and he saw and appreciated this service begun and continued by its founder, and, upon representation to the University of Chicago of the facts in the case, he succeeded in securing from this source a small annual subsidy, which has been continued to the present time.

The writer also believed in the mission of the MONTHLY and knew that it deserved more friends and supporters. Accordingly he at once began a campaign of correspondence with men the country over who were in positions of influence and whose assistance might be secured both in strengthening the status of the MONTHLY and in providing further subsidy funds. The proposition was put forth, in season and out of season, that a journal is needed in this country which should give more direct attention to the teaching of mathematics in the colleges, that should not only provide articles of a scientific nature whose technical difficulties are within the comprehension and control of the average college teacher, but should also deal frankly and scientifically with historical and pedagogical questions which concern the mathematical courses given in the more advanced secondary schools and the undergraduate college curricula. The responses for the most part indicated static interest rather than dynamic, the feeling being that any important advance with respect to the MONTHLY must involve at the outset its removal to some metropolitan center where more ample facilities could be secured for its printing and publication and for this would be needed a large increase in income which was not in sight.

But presently Professor Townsend of the University of Illinois lent a willing ear and through his influence the University of Illinois joined the University of Chicago in lending financial support to the MONTHLY and Professor G. A. Miller became associated with the writer in joint control of contributed articles, Editor Finkel remaining as before in charge of the problem department and business manager. This arrangement began in January, 1909, and has continued to the present. This action on the part of the University of Illinois and the unselfish devotion and effective co-operation of Professor Miller may well be counted as the turning point in the history of the movement which has now culminated in the formal transfer of the ownership and control of this journal to a board of ten editors, including the founder, and nine representatives of institutions which have agreed to contribute to the subsidy fund in order to put the new organization on its feet.

Without this action on the part of the University of Illinois at that critical time, the writer is free to say that he would soon have relinquished further effort and retired from the field. With this encouragement, however, he renewed his efforts to enlist active interest and co-operation. The next response came from Colorado College through the influence of Professor Florian Cajori, and the next from the University of Missouri through the influence of Professor E. R. Hedrick. Then followed the Universities of Minnesota, Nebraska, Kansas, Indiana, and Iowa, with Professors Bussey, Brenke, Ashton, Carmichael and Baker as editorial representatives.

This Board of Editors is organized under articles of agreement whereby it is self-perpetuating and all matters of editorial and business policy are determined by majority vote of the members, including the election of officers and committees. Some phases of the proposed editorial policy will be set forth in a ''Foreword'' on behalf of the editors in the January, 1913, issue, which will begin the new regime. But the most vital consideration is that the editorial policy shall be a living and growing thing, a conviction that important service is to be rendered and that the best attainable means that are to be used.

The plan involves a greatly increased expenditure and this must be met by a corresponding increase in income. It might have been done by doubling the subscription price, which, under present cost for material and service, would not have been unreasonable. But it was decided to keep the subscription price at two dollars per year in the hope that the list of subscribers may be speedily doubled, yes twice doubled, in which case the journal can become self-supporting. Meanwhile, the subsidy fund, supplemented by some selected advertising along mathematical lines, will put the new organization in motion.

It is urged that all subscribers who are in arrears come to the rescue of the present management in closing up its accounts, and that all renewals be made in *advance* to the end that the new management may be able to meet its contracts with promptness.

All subscriptions should be made payable to THE AMERICAN MATHEMATICAL MONTHLY and sent directly to the Treasurer, B. F. Finkel, Springfield, Missouri. Foreign subscriptions should include fifty cents extra to cover postage for foreign delivery.

All articles contributed for publication should be sent to the Managing Editor, H. E. Slaught, 5548 Monroe Avenue, Chicago, Illinois, or to one of of the other members of the Editorial Committee: namely, G. A. Miller, University of Illinois, Urbana, Illinois, or to E. R. Hedrick, University of Missouri, Columbia, Missouri.

All business correspondence should be addressed to the Managing Editor.

Problems for solution should be sent to the chairman of this committee, B. F. Finkel, or to one of the other members; namely, to R. P. Baker, University of Iowa, Iowa City, Iowa, or to W. C. Brenke, University of Nebraska, Lincoln, Nebraska.

Books for review should be sent by publishers or authors to W. H. Bussey, University of Minnesota, Minneapolis, Minnesota, chairman of this committee.

News items, such as appointments, promotions, notice of meetings, biographical and bibliographical notes, historical and pedagogical references, etc., should be sent to G. A. Miller, University of Illinois, Urbana, Illinois, chairman of this committee.

The MONTHLY depends upon its present subscribers and loyal supporters to aid in spreading its influence and especially to assist in swelling its subscription list. It is important that new subscribers should begin with the January, 1913, issue, especially because this will contain the first instalment of Professor Cajori's latest research on "The History of the Logarithmic and Exponential Concepts," which is to be published serially during the coming months.

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PARALLELOGRAMS INSCRIBED IN A RECTANGLE.

By L. A. HOWLAND, Wesleyan University, Middletown, Connecticut.

In the May, 1912, number of the MONTHLY, Professor Hodge points out the desirability of having a stock of a certain type of problems for use in a course in coördinate geometry. There is another type which seems to me to be also desirable for such a course. Not infrequently we find a student who has originality and is willing to think. His ability is not used to the full in the establishment of prescribed results. If started on the proper kind of problem, he is capable of discovering, what are to him at least, new results. The following seems to be such a problem, because its solution and